

PROCEEDINGS OF THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON

SERIES C. JOURNAL OF MEETINGS

VOLUME 18.

No. 3, 1953.

ORDINARY MEETING

WEDNESDAY, 1ST APRIL, 1953, at 5.30 p.m.

AGENDA

1. Confirmation of the Proceedings of the Ordinary Meeting held on 4th March, 1953.
2. Recommendations of candidates for Fellowship.
3. Announcement of election of new Fellows.
4. Proposed amendment of the Bye-laws: Special Meeting to be held on 6th May, 1953. Second reading.
5. Additions to the Library. [See p. 15.]
6. Admission of Fellows.
7. Exhibits.

Fellows are particularly requested to bring suitable exhibits to the Meeting even though it may not be possible to announce their intention to do so beforehand.

Note.—To avoid congestion in the Library and to enable exhibits to be displayed to greater advantage, a table has been placed in the meeting-room for this purpose. Fellows are asked to place their exhibits on this table, with a suitable explanatory note, as soon as possible on the afternoon of the meeting, so that they are available for inspection there before the meeting opens.

8. Communications.

1 Dr. H. E. Hinton.

Further experiments on a Chironomid larva that can be dehydrated without injury.

[ABSTRACT.]

Mature and partly grown larvae of *Polypedilum vanderplankei* Hint. have now been kept for three years during which period their moisture content was approximately 15 per cent. They appeared to suffer no loss in vitality and produced normal adults. The moisture content of the larvae can be reduced to approximately 0 per cent. without affecting their activity when later placed in water. They do not require oxygen when dry, and they can be kept for prolonged periods in purified nitrogen and hydrogen. There is also some evidence that when dry they survive a total loss of anaerobic respiration.

The terminal abdominal segments can be broken off and other injuries inflicted on dry larvae that quickly kill them when they are wetted. These injuries appear to have little effect on their temporary recovery when wetted. In short, removal of some abdominal segments is not incompatible with the demands they make upon their environment when dry, but such injuries rapidly kill them when they are wetted.

Dried larvae show a surprising tolerance to high temperatures. Experiments on dried Nematodes (*Actinolaimus* sp.) and the eggs of the brine shrimp, *Artemia salina*, show that their proteins are also not denatured by high temperatures. For instance, in preliminary experiments, it has been found that *Artemia* eggs hatch after 17 hours at 71°C. and 4 hours at 81°C.

2 Dr. J. S. Kennedy.

Change of host preference with change of form in *Aphis fabae* Scop.

[ABSTRACT.]

The host preferences of the different forms of aphid are not identical but vary with their different ecological functions. These behavioural differences between the forms are only quantitative: the spring and summer apterae and alatae and the autumn gynoparae form one series, differing in the same sense. But, in nature, the changes in the aphids coincide with seasonal changes in the primary and secondary host plants. It is the combination of these internal and external changes which brings about the complete reversal of apparent host preference in spring and autumn known as host alternation.

TEA will be served in the Library before the meeting.

Serial Publications in the Library of the Royal Entomological Society of London.

A list of the serial publications in the Society's Library, with the titles abbreviated in accordance with the *World List of Scientific Periodicals*, has now been prepared. Copies may be obtained in the Society's office, price (to Fellows) 3s. 9d.

PROCEEDINGS OF THE ORDINARY MEETING HELD ON 4TH MARCH, 1953.

Miss Theresa Clay, Vice-President, in the Chair.

Present 76 Fellows and 24 Visitors.

The minutes of the Ordinary Meeting held on 4th February were confirmed and signed by the Vice-President.

The names of the following candidates for election were read for the first time: Miss Pamela Allen, B.Sc. ; Mr. Leslie Bilton, M.Sc. ; Dr. Mario Enrico Franciscolo ; Mr. M. P. Joseph, M.Sc. ; Mr. Denys Brian Long, B.A. ; Mr. Tribeni Singh ; Mr. David Charles Twinn ; Mr. Bertram James Dutfield Warren.

For the second time (taken as read) : Dr. M. Atiqur Rahman Ansari, M.Sc., Ph.D., D.Sc. ; Mr. Edwin Taplin Bezant, B.Sc. ; Mr. Albert Leslie Bridgen ; Mr. Marco Enrico Clifton Giglioli, B.Sc. ; Mr. Bruce Boucher Given, M.Sc. ; Mr. Hilmy Mileka Hanna ; Mr. Mohammed Mahmoud Hosni ; Mr. Frederick Arthur Hunter ; Mr. Denis Mellor Jesper ; Mr. Mohan Babu Naidu ; Dr. K. Karunakaran Nayar, M.A., Ph.D. ; Mr. Arthur Felix Peacey ; Mr. Vishwa Dev Puri, M.Sc. ; Mr. Govindananda Sharma, B.Sc. ; Mr. Douglas John Williams, B.Sc.

The Secretary read the names of the following newly elected Fellows of the Society : Mr. Jack Walter Trench Armstrong, Callubri, Nyngan, N.S.W., Australia ; Mr. Raymond Bailey, B.Sc., 19, Huncote Road, Narborough, Leicester ; Dr. John James Reid McLintock, Unit of Veterinary and Medical Entomology, Science Service, Ottawa, Ontario, Canada ; Mr. Neville Ryder Phillips, Cassada, 112, Dulwich Road, Holland-on-Sea, Clacton, Essex ; Mr. Rajendra Kumar De, M.Sc., c/o Pest Control, Ltd., Bourn, Cambridge ; Mr. David George Sandy, Oakhurst, 26, Thorneyfields Lane, Stafford ; Mr. Peter Wallace Miles, B.Sc., Trelawney Tobacco Research Station, Private Bag 74B, Salisbury, Southern Rhodesia.

In accordance with the Bye-laws, Chapter XXII, Paragraph 1, and Chapter XXV, Paragraph 1, the Secretary read for the first time the notice of a Special Meeting to be held in the Society's rooms on Wednesday, 6th May, 1953, to consider and vote upon certain proposed alterations to the Bye-laws. [See p. 13.]

Thanks were voted to donors of gifts to the Library since the last meeting.

The following paper, accepted for publication in the *Transactions*, was read in title :

"The ecology of *Glossina palpalis* in Northern Nigeria," by T. A. M. Nash and W. A. Page.

Mr. H. R. Wallace signed the Obligation Book and was admitted a Fellow of the Society.

Dr. J. L. Cloudsley-Thompson exhibited a male stick-insect, *Carausius morosus* Brunn. & Redt. He said males were extremely rare in these parthenogenetic Phasmids. For example Step recorded none in 10,000 insects reared, Ling Roth 1 in 1,000, Miss Jackson 7 in 3,000, and Hewlett 1 in 60. The specimen exhibited was the only one in a batch of about 250. It can be distinguished from the female by its longer legs and antennae, slender fawn-coloured body and red mesothoracic sternite. Unlike the females, it does not appear to change colour at night. Such "males" usually turn out to be intersexes and are seldom capable of successful copulation. Chopard suggests that they may be produced with adverse conditions of insufficient food and moisture ; but since they are rarely fertile they can have little biological significance.

Mrs. Clarke (a visitor) exhibited a collection of living hybrid swallowtail butterflies, on behalf of her husband, Dr. C. A. Clarke, of Liverpool.

The cross *P. asterias* ♀ × *P. machaon* ♂ was effected in November, 1952, and the female and male hybrids resulting therefrom were exhibited at the December Meeting. Some of these butterflies were now shown set, and also a further batch of the same hybrids.

The reciprocal cross (*P. machaon* ♀ × *P. asterias* ♂) had since been achieved, the first butterflies emerging on 26th February, 1953.

Both sets of hybrids strikingly resembled the American *asterias*, the black pattern appearing to be dominant over the yellow. The reciprocal cross (*P.*

machaon ♀ × *P. asterias* ♂) was seen to be essentially similar to the original hybrid.

The principal *machaon* features in both sets of hybrids are as follows :

(1) There is a real difference in the size and shape of the anal angle spot. In *asterias* it is small and has a black central pupil. In the hybrid it is larger and the black pupil has dropped down to the bottom of the spot and become a dash instead of a dot.

(2) In the hybrid the legs are partially yellow. In *asterias* they are black.

(3) In *asterias* the four spots above the tail are orange with at most a thin yellow border top and bottom. In the hybrids these spots are yellow with at most a narrow orange dash in the centre of the top one or two spots ; in this they veer towards *machaon*.

Type *asterias* males were shown for comparison, and also the Spanish *machaon* ♀ (*marbellensis*) from which the reciprocal cross was obtained.

Dr. J. R. Busvine exhibited a Chinese carved ivory cricket cage, used for carrying a male cricket about for pleasure at the sound of its stridulation. In England to-day the noise is disliked ; but this was not always so, as shown by Dickens' account of the "Cricket on the Hearth." In various countries crickets have been kept in captivity for the sake of their "song" ; but nothing rivals the extraordinary highly developed "cricket fancying" cult which has existed in China for a thousand years. The insects are kept in carved gourds, fed from porcelain dishes and tended with various curious instruments, including "cricket-ticklers." (The latter consist of rat whiskers mounted in an ivory handle.) The cage exhibited, was of vase-shaped mesh-work, of two halves fitting together and secured by a cord which could suspend it from the clothing. It is difficult to date, but, according to the British Museum, probably early 19th century.

Further details on the Chinese cricket cult may be found in a paper by Berthold Laufer entitled "Insect Musicians and Cricket Champions of China" (1927, *Leaf. Field Mus. nat. Hist.* 22, pp. 27).

Dr. W. F. Jepson gave a paper describing his recent tour of the cocoa and groundnut areas of Nigeria in connection with the work of the West African Pest Infestation Research Unit, an abstract of which appeared on page 6.

A discussion followed in which Mr. D. W. Hall, Dr. J. R. Busvine, Mr. W. Crewe (a visitor, in charge of the Research Station at Kumba, British Cameroons), Dr. B. P. Uvarov, Mr. W. P. L. Cameron and Mr. R. W. Howe took part.

E. B. BRITTON, *Honorary Secretary.*

The next meeting will be held on 6th May, at 5.30 p.m.

Notice of a Special Meeting to be held at 41, Queen's Gate, South Kensington, S.W. 7, on Wednesday, 6th May, immediately following the Ordinary Meeting on that day.

A Special Meeting will be held on Wednesday, 6th May, to consider and vote upon certain proposed alterations to the Bye-laws, which will be moved from the Chair on behalf of Council.

Explanatory Note.

1. Honorary and Special Life Fellows.

Council at its meeting on 4th February, 1953, decided to combine Honorary and Special Life Fellows in one category, having no qualifications of nationality. *This necessitates alterations to Chapters II and XVIII and the deletion of Chapter XIX of the Bye-laws.*

2. *Election of Fellows.*

At its meeting on 2nd July, 1952, Council decided to exempt Fellows under the age of 25 on the date of their election from the payment of the Admission Fee. *This necessitates amendments in Chapter XV, para. 1, and Chapter XVII, para. 4.*

3. *Annual Meeting.*

Under the present Bye-laws the Annual Meeting is held on the third Wednesday in January. This means that the Meeting can fall as early as 15th January. The preparation of the Society's accounts in the short time available is becoming increasingly difficult, and it is suggested that the Annual Meeting be held on the first Wednesday in February, the Ordinary Meeting normally held on that day being held on the third Wednesday in January. *This requires alterations to Chapter XXI, para. 1, and Chapter XXIII.*

4. *The Common Seal.*

The present Bye-laws contain no rules regarding the use of the Society's Common Seal. A chapter has been added governing the care and use of the seal, laying down as a rule what has, in fact, always been the unfailing custom and tradition of the Society.

Proposed Amendments to the Bye-laws.

CHAPTER II. *Constitution.*

The Society shall consist of Honorary, Special Life and Ordinary Fellows.

Amendment. Delete and substitute :

“The Society shall consist of Honorary and Ordinary Fellows.”

CHAPTER XV. *Admission Fee and Annual Contribution.*

Para. 1. Every Fellow upon his election shall pay the sum of Two Guineas for his Admission Fee, and if any Fellow shall fail to pay such sum within six months after his election the said election shall become void, unless the Council shall otherwise decide.

Amendment. Add at end of paragraph :

“Fellows under the age of 25 on the date of election shall be exempt from the payment of the Admission Fee.”

Para. 2. Every Fellow shall upon his election pay the first Annual Contribution of Three Guineas, and if any Fellow shall fail to pay such sum within six months after his election the said election shall become void, unless the Council shall otherwise decide. He shall pay the like sum annually in advance on the 1st day of January in each year, provided however that any Fellow elected after September in each year will not be called upon to pay his contribution unless he desires to receive the Publications for the year in which he is elected.

Amendment. Delete the words “elected after September” in the sixth line and substitute “elected on or after 1st September.”

CHAPTER XVII. *Privileges of Fellows.*

Para. 4. No person shall have his name printed in the Annual List of Fellows of the Society until such person shall have paid the Admission Fee, and no such person shall have liberty to vote at any Election or Meeting of the Society before he shall have been admitted as directed in Chapter XIV, Section 4.

Amendment. After the words "Admission Fee" in the second line, insert "and first Annual Contribution, or the latter only in the case of Fellows who are under the age of 25 on the date of their election."

CHAPTER XVIII. *Honorary Fellows.*

Amendment. Add new Paragraph 1 :

Para. 1. "Honorary Fellows shall be persons, not necessarily already Fellows, who, in the opinion of Council, have rendered distinguished service to Entomological Science or to the Society."

Renumber original paragraphs 1 and 2 to become 2 and 3.

Para. 3 (old numbering). No British subject shall be an Honorary Fellow.

Amendment. This paragraph to be deleted.

Para. 4. The number of Honorary Fellows shall not exceed twelve.

Amendment. Delete "twelve" and substitute "twenty-five."

CHAPTER XIX. *Special Life Fellows.*

Para. 1. Fellows, being British subjects, who have paid subscriptions as Ordinary Fellows for not less than fifteen years, and who, in the opinion of the Council, have rendered distinguished service to Entomological Science or to the Society, may be elected Special Life Fellows, in the manner provided under Chapter XVIII, Section 1, for the Election of Honorary Fellows, and after election they shall be exempt from the payment of fees and contributions, and shall possess all the privileges of, and shall be subject to, the same rules and restrictions as Honorary Fellows.

Para. 2. The number of Special Life Fellows shall not exceed twelve.

Amendment. The Chapter to be deleted.

Renumber succeeding Chapters XIX to XXV.

CHAPTER XX (*new numbering*). *Ordinary Meetings.*

Para. 1. The Ordinary Meetings of the Society shall be held on the first Wednesday in each month (except January and August), beginning at half-past five in the evening, or at such days or times as the Council shall from time to time direct.

Amendment. Insert after "except January" "when it shall be held on the third Wednesday, and February," and add after "August" "when there shall be no meeting."

CHAPTER XXII (*new numbering*). *Annual Meeting.*

Para. 1. The Annual Meeting of the Society shall be held on the third Wednesday in January.

Amendment. Delete and substitute :

"The Annual Meeting of the Society shall be held on the first Wednesday in February."

Add new Chapter :—

CHAPTER XXVI. *The Common Seal.*

"*Para. 1.* The Council shall provide for the safe custody of the Common Seal of the Society".

"Para. 2. Every deed or writing to which the Common Seal is to be affixed shall be passed in Council and sealed in the presence of the President or a Vice-President, who shall sign the deed or writing to which the seal is affixed."

ADDITIONS TO THE LIBRARY.

Presented.

- Cazier, M. A., and Lacey, L. *Cerambycidae of the Bahama Islands, British West Indies.* *Amer. Mus. Novit.* **1588**, 1952. [Mr. L. Lacey.]
- Duffy, E. A. J. *A monograph of the immature stages of British and imported timber beetles (Cerambycidae).* Large 8vo. London. 1953. [Trustees of the British Museum.]
- Ewan, Joseph. *Rocky Mountain naturalists.* 8vo. Denver, U.S.A. 1950. [The Publishers.]
- Gaul, Albro T. *The wonderful world of insects.* 8vo. New York. 1953. [The Publishers.]
- Metcalf, C. L., and Flint, W. P. *Destructive and useful insects. Their habits and control.* 3rd edn., revised by R. L. Metcalf. 8vo. New York. 1951. [The Publishers.]
- Mosely, Martin E., and Kimmins, D. E. *The Trichoptera (Caddis-flies) of Australia and New Zealand.* 8vo. London. 1953. [The Trustees of the British Museum.]
- Pierce, F. N. *The female genitalia of the Noctuidae.* 2nd (facsimile) edn. 8vo. Feltham. 1952. [The Publisher.]

Purchased.

- Bergmann, Arno. *Die Grossschmetterlinge Mitteleuropas.* Bd. 2. *Tagfalter. Verbreitung, Formen und Lebensgemeinschaften.* Large 8vo. Jena. 1952.
- Binaghi, G. *Coleotteri d'Italia. Vita, ambienti, utilità, danni, mezzi di lotta.* Large 8vo. Genova. 1951.
- Döderlein, Ludwig. *Bestimmungsbuch für deutsche Land- und Süßwassertiere. Insekten I. Teil. Käfer, Wespen, Libellen, Heuschrecken, usw.* 2nd edn. 8vo. München. 1952.
- Hoffmeyer, Skat. *De danske Maalere [Geometers].* 8vo. Aarhus. 1952.
- Martini, E. *Lehrbuch der medizinischen Entomologie.* 4th edn. Large 8vo. Jena. 1952.
- Rabaud, Étienne. *L'instinct et le comportement animal. I. Réflexes et tropismes. II. Étude analytique et vue d'ensemble.* Sm. 8vo. Paris. 1949.
- Ribaut, Henri. *Homoptères Auchenorrhynques. II. (Jassidae.)* 8vo. Paris. 1952. [Faune de France 57.]
- Tatchell, Leonard. *A catalogue of the butterflies found in the Swanage district.* Sm. 8vo. Swanage. n.d.
- Transactions of the IXth International Congress of Entomology, Amsterdam, 1951.* Vol. 1. 8vo. Amsterdam. 1952.

In addition, separates have been presented by Professor P. A. Buxton, C.M.G., F.R.S.; Mr. E. W. Classey; Dr. J. L. Cloudsley-Thompson; Rothamsted Experimental Station; American Entomological Society; Mr. J. D. Bletchly; Mr. P. R. Wilkinson; Anti-Locust Research Centre; Pest Control Ltd.; Mr. A. E. Gardner; Mr. J. G. Pendergrast; The Rev. C. E. Tottenham; Mr. D. Leston; Companhia de Diamantes de Angola; Commonwealth Institute of Entomology; Mr. T. G. Howarth; and Mr. N. C. E. Miller.

NOTICES

In addition to the *Transactions and Proceedings* (Series A, B and C), the following publications are available on application at the Society's rooms:—

THE GENERIC NAMES OF BRITISH INSECTS, WITH CHECK LISTS OF THE SPECIES, prepared by the Committee on Generic Nomenclature of the Royal Entomological Society of London, with the assistance of the Department of Entomology of the British Museum (Natural History):—

Part 1. Recommendations relating to the publication of the Committee's										Price	
	Reports	..	..	..	..	..	..	..	..		6d.
..	2. Rhopalocera	..	..	..	..	..	..	..	..	..	3s. 6d.
..	3. Odonata	..	..	..	..	..	..	..	..	..	3s. 6d.
..	4. Neuroptera	..	..	..	..	..	..	..	..	..	3s. 6d.
..	5. Hymenoptera Aculeata	..	..	..	..	..	..	..	..	..	15s. 0d.
..	6. Coleoptera Carabidae	..	..	..	..	..	..	..	..	..	10s. 0d.
..	7. Coleoptera Hydradephaga	..	..	..	..	..	..	..	..	..	5s. 0d.
..	8. Hemiptera Heteroptera	..	..	..	..	..	..	..	..	..	39s. 0d.
..	9. Coleoptera Staphylinidae	..	..	..	..	..	..	..	..	..	40s. 0d.

HANDBOOKS FOR THE IDENTIFICATION OF BRITISH INSECTS.

The Society has undertaken the issue of a series of publications intended to provide illustrated Keys to the whole of the British Insect Fauna so far as this is possible.

It is proposed to cover this field in a series of ten volumes, arranged as follows:—

I. Part 1. General Introduction.	Part 9. Ephemeroptera.†
.. 2. Thysanura.	.. 10. Odonata.†
.. 3. Protura.	.. 11. Thysanoptera.*
.. 4. Collembola.*	.. 12. Neuroptera.
.. 5. Dermaptera and Orthoptera.†	.. 13. Mecoptera.
.. 6. Plecoptera.†	.. 14. Trichoptera.
.. 7. Psocoptera.*	.. 15. Strepsiptera.
.. 8. Anoplura.	.. 16. Siphonaptera.
II. Hemiptera.*	III. Lepidoptera.
VI. Hymenoptera: Symphyta* and Aculeata.*	IV and V. Coleoptera.*
VII. Hymenoptera: Ichneumonidea.*	
VIII. Hymenoptera: Cynipoidea, Chalcidoidea and Serphoidea.	
IX. Diptera: Nematocera† and Brachycera.	X. Diptera: Cyclorrhapha.*

The following parts are now available:—

Vol. I, Part 5. Dermaptera and Orthoptera. By W. D. Hincks. Price 3s. 6d. plus postage.	
Vol. I, Part 6. Plecoptera. By D. E. Kimmins. Price 3s. 6d. plus postage.	
Vol. I, Part 9. Ephemeroptera. By D. E. Kimmins. Price 3s. 6d. plus postage.	
Vol. I, Part 10. Odonata. By F. C. Fraser. Price 7s. 6d. plus postage.	
Vol. V, Part 12. Coleoptera: Cerambycidae. By E. A. J. Duffy. Price 3s. 6d. plus postage.	
Vol. VI, Part 2a. Hymenoptera: Symphyta (part). By R. B. Benson. Price 10s. 6d. plus postage.	
Vol. VI, Part 2b. Hymenoptera: Symphyta (contd.). By R. B. Benson. Price 15s. 0d. plus postage.	
Vol. IX, Part 1. Diptera: Introduction and Key to Families. By H. Oldroyd. Price 7s. 6d. plus postage.	
Vol. IX, Part 2. Diptera, Nematocera: Families TIPULIDAE to CHIRONOMIDAE. By R. L. Coe, Paul Freeman and P. F. Mattingly. Price 20s. 0d. plus postage.	

Parts marked † are on sale or in the press, those marked * in preparation.

Orders for the complete series or for separate parts can be placed with the Registrar at the Society's rooms now, but prices can only be quoted for those parts already issued.

Fellows of the Society may purchase one copy at a discount of 25 per cent.; additional copies at the full published price.

STYLOPS, a Journal of Taxonomic Entomology.

1932-1935. Vols. 1-4 (all issued). Price £1 16s. 0d. each; to Fellows £1 7s. 0d.

ABSTRACT OF PROCEEDINGS OF THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON. 1935. Nos. 1-6 (all issued). 3s. 0d.

HUBNER: A BIBLIOGRAPHICAL AND SYSTEMATIC ACCOUNT OF THE ENTOMOLOGICAL WORKS OF JACOB HUBNER AND THE SUPPLEMENTS THERETO. In 2 vols. By Francis Hemming. Price: Vol. 1. 605 pp. £1 15s. 0d.; Vol. 2. 275 pp. 15s. 0d.

THE HISTORY OF THE ENTOMOLOGICAL SOCIETY OF LONDON, 1833-1933. By S. A. Neave, assisted by F. J. Griffin. Price 10s. 6d.

SERIAL PUBLICATIONS IN THE LIBRARY OF THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON. 1951. Price 5s. 0d.

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